[ABSTRACT]

A positive-working lithographic printing plate precursor is disclosed which comprises (i) a grained and anodized aluminum support having a hydrophilic surface and (ii) a heat-sensitive oleophilic coating provided on the hydrophilic surface, wherein said coating is capable of dissolving in an aqueous alkaline developer at a higher dissolution rate in areas of said coating which are exposed to heat or infrared light than in unexposed areas, characterized in that the hydrophilic surface has a surface roughness, expressed as arithmetical mean center-line roughness Ra, which is less than 0.40 µm. The use of a low surface roughness as defined above provides an improved shelf life of the coating.